Exercise 1 Your friend buys a new car, and as soon as they drive it off the lot, it begins to depreciate in value. After 2 years, the car is worth \$16,000 and after 4 years, the car is worth \$12,000. Assume that the car's value drops linearly.

- (a) A linear function V that expresses the value of the car in terms of the number of years x since it was purchased is $V(x) = \boxed{-2000x + 20000}$.
- (b) The y-intercept of the function V is (0, 20000).
- (c) The y value of the y-intercept represents

Multiple Choice:

- (i) the starting value of the car. \checkmark
- (ii) the time at which the car's value is 0.
- (iii) the average value of the car over its lifespan.
- (d) The x-intercept of the function V is $(\boxed{40}, \boxed{0})$.
- (e) The x value of the x-intercept represents

Multiple Choice:

- (i) the starting value of the car.
- (ii) the time at which the car's value is 0. \checkmark
- (iii) the average value of the car over its lifespan.